

United States Patent [19]

Baker et al.

[11] Patent Number: 4,943,435

[45] Date of Patent: Jul. 24, 1990

[54] PROLONGED ACTIVITY NICOTINE PATCH

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[73] Assignee: Pharmetrix Corporation, Menlo Park, Calif.

[21] Appl. No.: 264,397

[22] Filed: Oct. 28, 1988

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 105,549, Oct. 5, 1987, Pat. No. 4,839,174.

[51] Int. Cl.³ A61L 15/00

[52] U.S. Cl. 424/448; 424/449; 424/486; 128/156; 128/632; 131/335

[58] Field of Search 424/448, 449, 486; 128/156, 632; 131/335

[56] References Cited

U.S. PATENT DOCUMENTS

3,598,122	8/1971	Zaffaroni	128/268
3,598,123	8/1971	Zaffaroni	128/268
3,731,683	5/1973	Zaffaroni	128/268
3,742,951	7/1973	Zaffaroni	128/268
3,797,494	3/1974	Zaffaroni	128/268
3,996,934	12/1976	Zaffaroni	128/268
4,597,961	7/1986	Etscorn	424/28

4,624,665	11/1986	Nuwayser	424/448
4,627,429	12/1986	Tsuk	128/156
4,638,043	1/1987	Szycher et al.	424/449
4,687,481	8/1987	Nuwayser	424/449
4,706,676	11/1987	Peck	128/632
4,715,387	12/1987	Rose	131/335

FOREIGN PATENT DOCUMENTS

3438284	7/1985	Fed. Rep. of Germany
61-251619	8/1986	Japan

OTHER PUBLICATIONS

J. E. Rose et al., "Transdermal Administration of Nicotine," *Drug and Alcohol Dep.*, 13, 209-213, 1984.
J. F. Komerska, "Urethane Films—Transdermal Opportunities," *J. Plastic Film and Sheeting*, 3 58-64; 1987.

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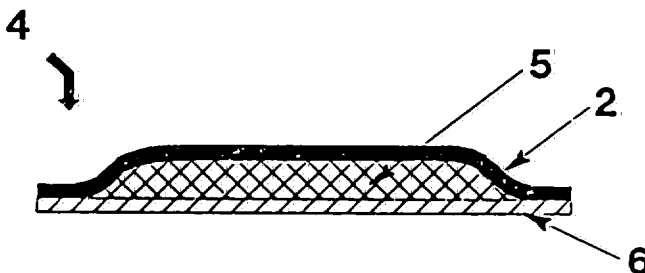
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[57] ABSTRACT

A transdermal patch for delivering nicotine for prolonged periods of 12-24 hours. The patch includes a rate-controlling membrane or monolith to keep the nicotine flux within useful and safe limits. The patch is typically replaced once a day, and can be used for smoking cessation therapy or in other situations where systemic nicotine delivery is indicated.

22 Claims, 8 Drawing Sheets



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